

WHAT IS CLAIMED IS:

1 1. A process for loading a centrifuge rotor with overburden onto a
2 contained rock core sample comprising the steps of:
3 providing a containment cylinder closed at one end;
4 providing a rubber liner closing one end of the containment cylinder around
5 the inlet/outlet covering the sides of the containment cylinder;
6 placing core sample interior of the liner and containment cylinder for
7 compression by the rubber liner;
8 providing a loading ring for compressing the rubber liner within the
9 containment cylinder over the placed core sample; and,
10 compressing the loading ring so that the rubber liner essentially reacts as a
11 fluid to apply overburden pressure to the core sample.

1 2. The process for loading a centrifuge rotor with overburden onto a
2 contained rock core sample according to claim 1 and including the further steps of:
3 providing a locking mechanism connected between the loading ring and the
4 containment cylinder for maintaining the loading ring compression on the rubber liner; and,
5 locking the locking mechanism after the compressing step to statically
6 maintained the overburden pressure on the core sample.

1 3. The process for loading a centrifuge rotor with overburden onto a
2 contained rock core sample according to claim 1 and wherein the passing fluid through the
3 core samples step includes:
4 placing the containment cylinder in a centrifuge.

1 4. The process for loading a centrifuge rotor with overburden onto a
2 contained rock core sample according to claim 1 and wherein the passing fluid through the
3 core samples step includes:
4 passing fluid from one inlet/outlet to the other inlet/outlet through core
5 sample.

1 5. A chamber for containing a core sample with overburden pressure
2 comprising:
3 a containment cylinder closed at one end;
4 a fluid inlet/outlet through the closed end of the containment cylinder;

5 a rubber liner closing one end of the containment cylinder around the
6 inlet/outlet covering the sides of the containment cylinder;
7 a core sample interior of the liner and containment cylinder for compression
8 by the rubber liner;
9 a loading ring for compressing the rubber liner within the containment
10 cylinder over the placed core sample,
11 a fluid inlet/outlet through the loading ring;
12 means compressing the loading ring so that the rubber liner essentially reacts
13 as a fluid to apply lithostatic pressure to the core sample.

1 6. A process for testing fluid flow within a core sample taken from within
2 the Earth at an elevation below ground having lithostatic pressure due to overburden
3 comprising the steps of:

4 applying the lithostatic pressure due to overburden independent of the
5 overburden to the core sample; and,
6 after applying the lithostatic pressure to the core sample, flowing fluid through
7 the core sample to determine the fluid flow or capillary properties of the core sample.

1 7. A process for loading a cell contained rock core sample with
2 overburden comprising the steps of:

3 providing a containment cylinder closed at one end;
4 providing a fluid inlet/outlet through the closed end of the containment
5 cylinder;

6 providing a rubber liner closing one end of the containment cylinder around
7 the inlet/outlet covering the sides of the containment cylinder;

8 placing core sample interior of the liner and containment cylinder for
9 compression by the rubber liner;

10 providing a loading ring for compressing the rubber liner within the
11 containment cylinder over the placed core sample,

12 providing a fluid inlet/outlet through the loading ring;

13 compressing the loading ring in an hydraulic press so that the rubber liner
14 essentially reacts as a fluid to apply lithostatic pressure to the core sample; and,

15 passing fluid through the core sample to determine fluid flow characteristics of
16 the sample at the lithostatic pressure.

1 8. The process for loading a centrifuge rotor with overburden onto a
2 contained rock core sample according to claim 7 comprising the steps of:
3 before the compressing step, heating the containment cylinder, rubber liner,
4 and core sample to a temperature ambient to the rock core sample with overburden within its
5 natural environment.